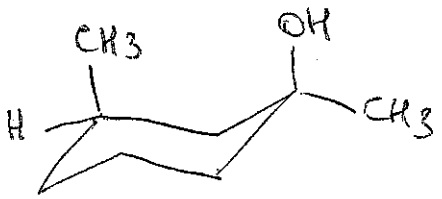
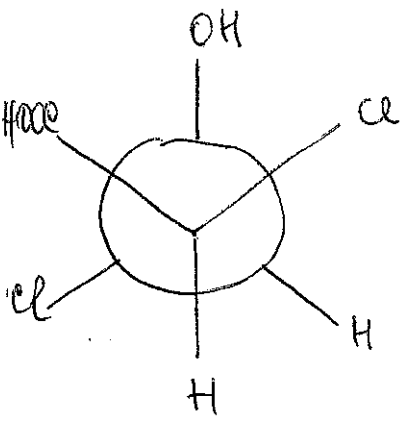
UNIVERSITA' DEGLI STUDI DI SIENA

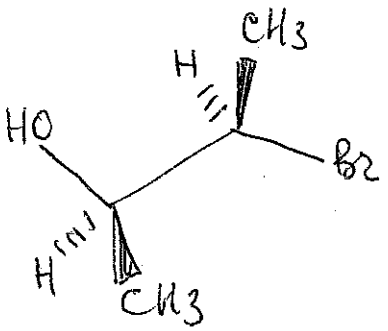
Corso di laurea in Scienze Chimiche

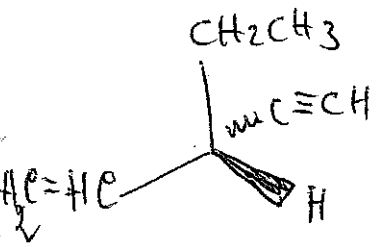
7.X.2013

1) Disegnare le proiezioni di Fischer e attribuire la configurazione assoluta

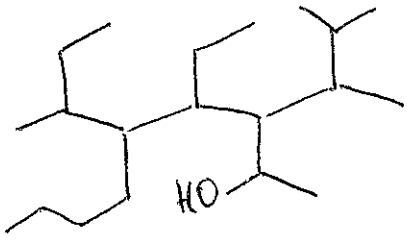


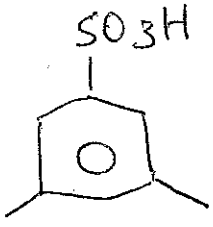



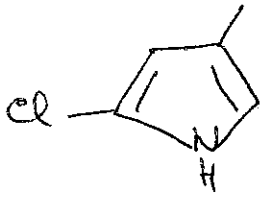



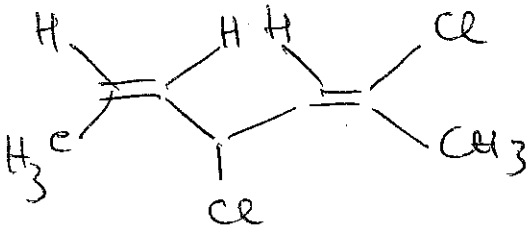



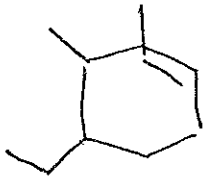
2) Scrivere il nome IUPAC e la notaz. stereochim., se opportuno, dei seguenti composti:

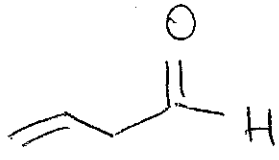


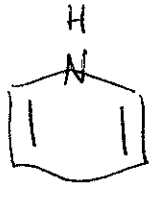



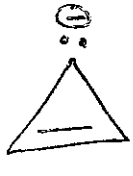



3) Individuare i composti aromatici motivando la scelta:

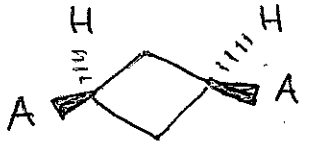


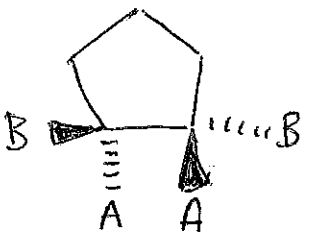


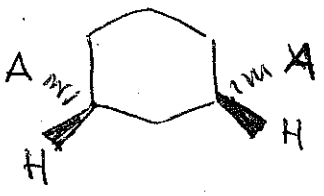


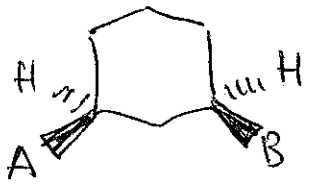
4) Per ciascun composto:
- dire se è chirale | achirale
- dire se può esistere come coppia di enantiomeri.
In caso affermativo disegnare l'enantiomero

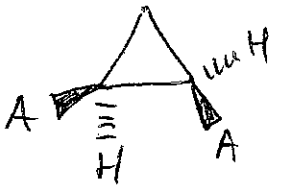
$A \neq B$



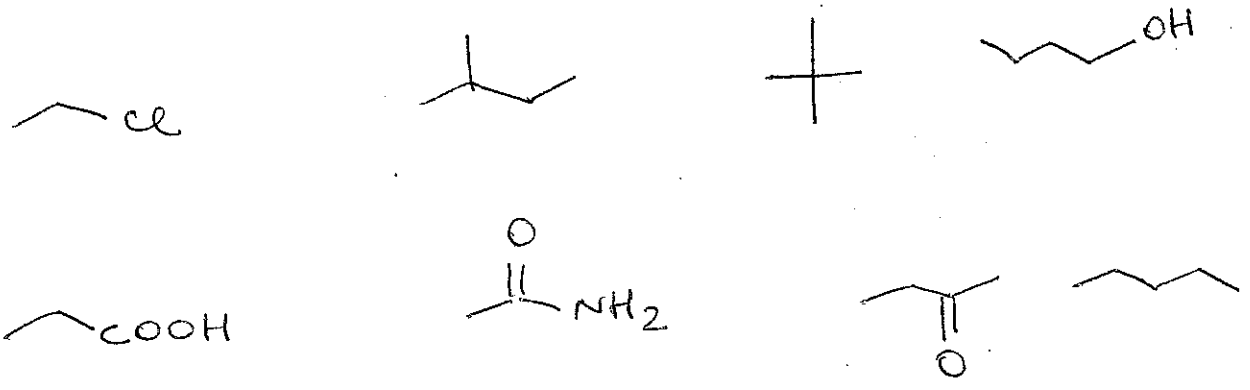



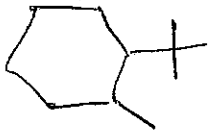



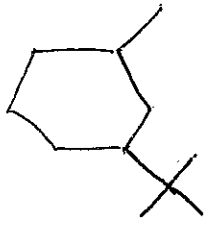



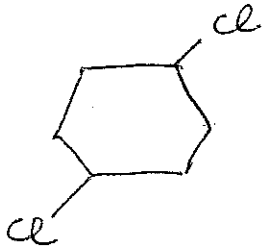
5) Disporre i composti in ordine di punto di ebollizione crescente motivandone la scelta (1= pto eboll. minore).




6) Disegnare le conformazioni a sedia per l'isomero cis di ciascun composto indicando quella più stabile



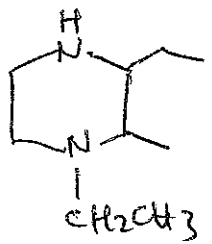


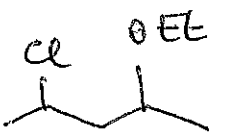


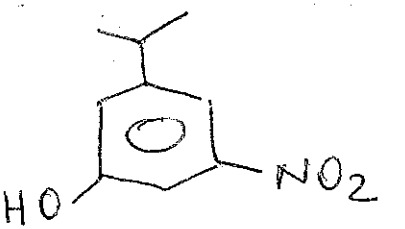
UNIVERSITA' DEGLI STUDI DI SIENA

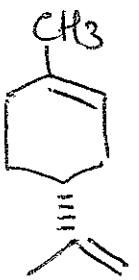
Corso di laurea in Chimica 19.XII.2013

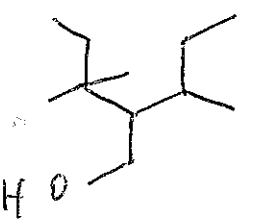
1) Attribuire il nome IUPAC e la notaz. stereodi. se opportuno:

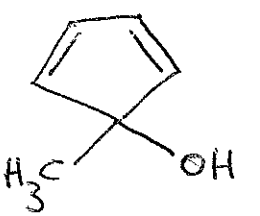


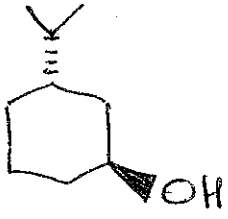



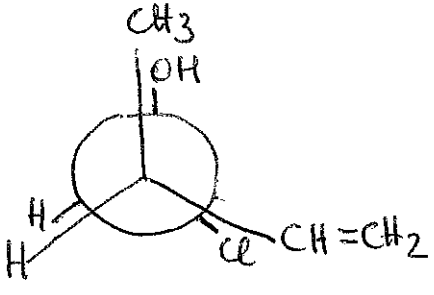



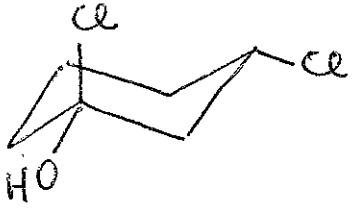



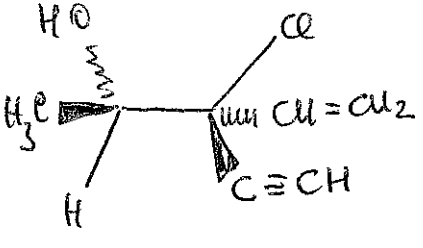

2) Descrivere l'ibridazione sp del carbonio (orbitali, geometria, ...) e indicare almeno due classi di composti che contengono C sp.

3) disegnare le proiezioni di Fischer e attribuire la configur. assoluta:

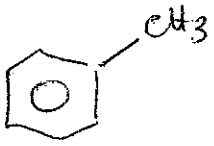


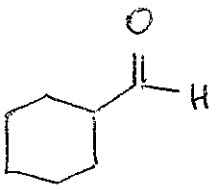



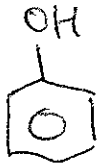



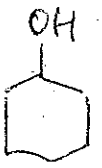



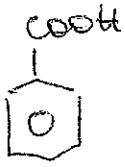
4) Ordinare i seg. composti secondo l'acidità crescente (1 = ac. più debole) motivando la scelta e indicando l'idrogeno più acido di ciascun composto

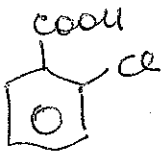


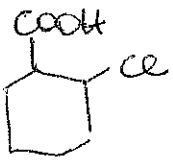



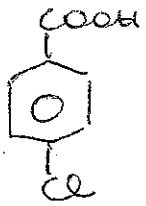



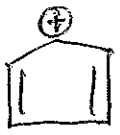

5) L'analisi polarimetrica di un composto puro mostra

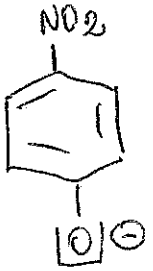
$[\alpha]_D^{25} = +24,2°$

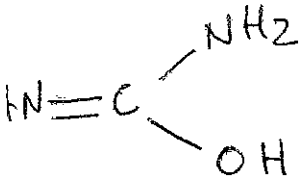
Il composto:

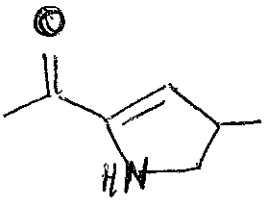
- può avere / ha / non ha 2 stereocentri
- può avere / ha / non ha un piano di simmetria
- può essere / è / non è chirale
- può avere / ha / non ha 1 solo stereocentro
- può essere / è / non è una forma mes

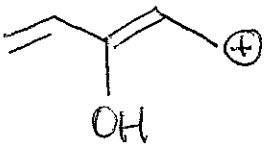
6) Scrivere le formule di risonanza:

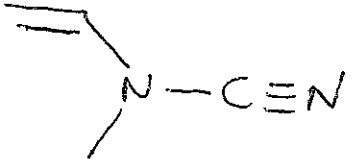




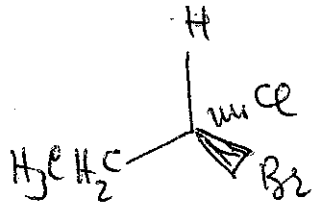



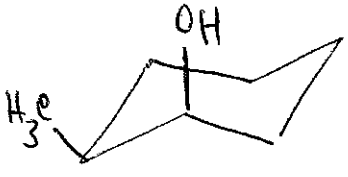
UNIVERSITA' DEGLI STUDI DI SIENA

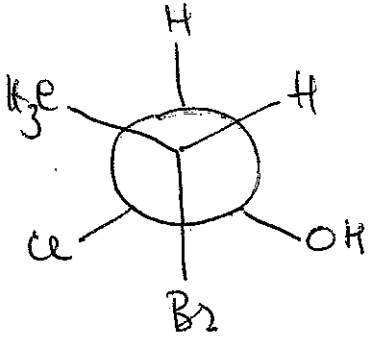
Corso di laurea in Scienze Chimiche

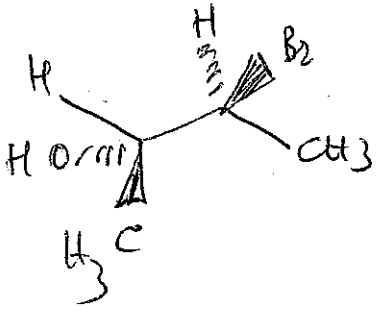
10/2/2014

1. Disegnare le proiezioni di Fischer e determinare la configurazione assoluta

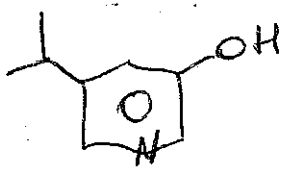


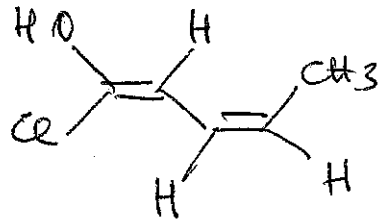



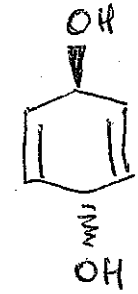



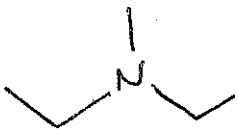



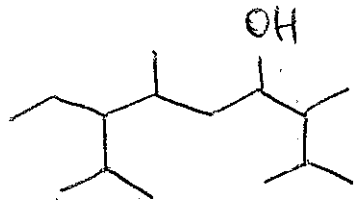
2) Attribuire il nome IUPAC e la notazione stereochimica, se opportuno

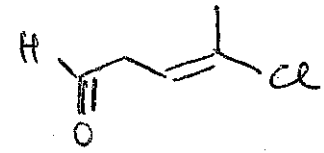


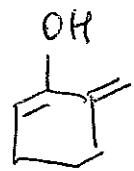



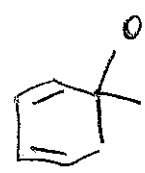



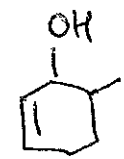



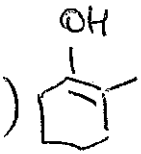

3) Per alcuni dei seg. composti è possibile l'isomeria di tautomeria cheto-enolica. Scrivere le 2 specie indicando quella prevalente

a) 


b) 


c) 


d) 


e) 

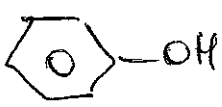
43) Utilizzando le formule opportune rappresentare le conformazioni dei seg. composti attribuendo a ciascuna la stabilità relativa

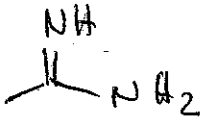
cis - 1,3 - dibromocicloesano (sedie)

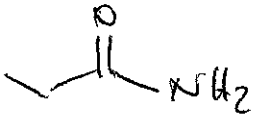
1,2 - dicloroetano

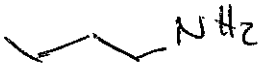
(2E, 4Z) - 2,4 - esadiene

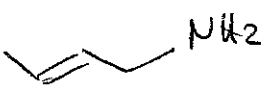
5) Ordinare i seg. composti secondo la basicità crescente motivandone la scelta: (1=base + debole)

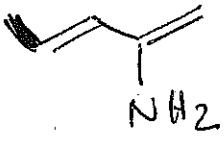






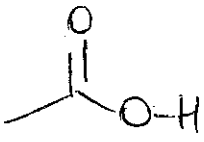


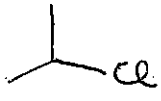


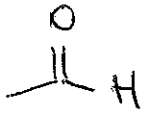


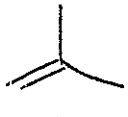
$HC \equiv C-NH_2$

6) Attribuire il n. ossidazione ai vari atomi









$HC \equiv C-NH_2$

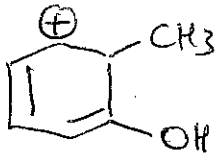
UNIVERSITA' DEGLI STUDI DI SIENA

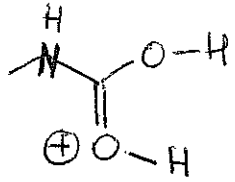
Corso di laurea in Scienze Chimiche

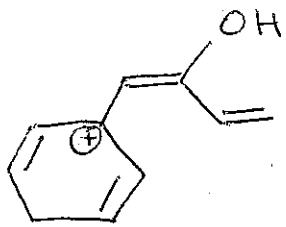
Compito di Chimica Organica

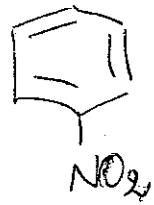
24/9/2013

1) Scrivere le formule di risonanza dei seg. composti:

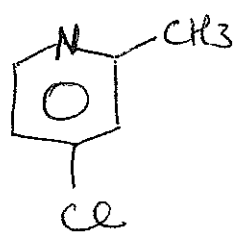


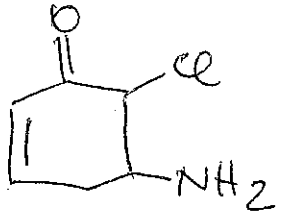



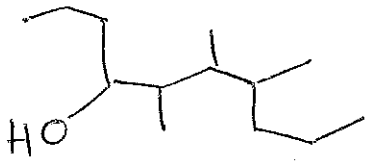



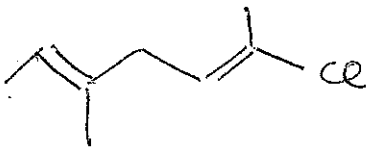



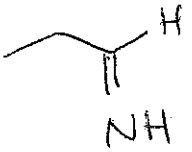
2) Scrivere il nome IUPAC e la molt. stereoch., se opportuno, dei seguenti composti

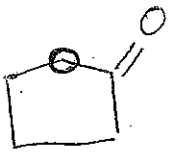


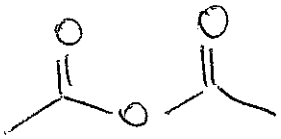



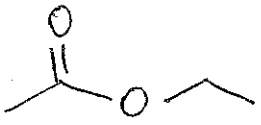



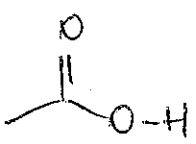



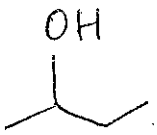



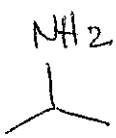



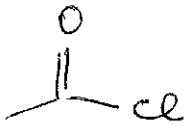



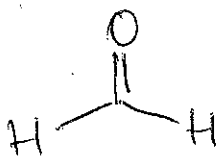

3) Determinare il n. ossidazione dei vari atomi nei seg. composti:

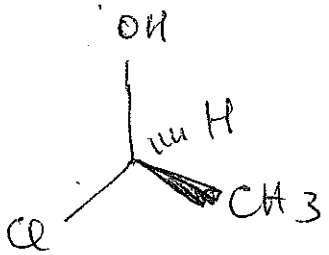


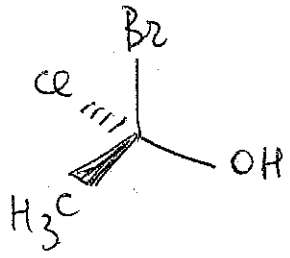



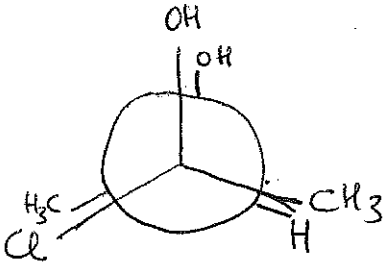
4) Scrivere le conformaz. a sedia per i seg. composti e per ciascun composto attribuire la stabilità relativa

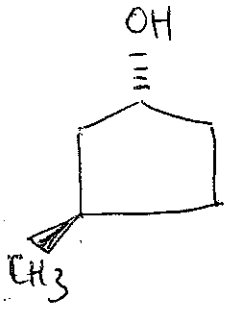
(1S,3R)-1-bromo-3-cloro-1,3-dimetilcicloesano

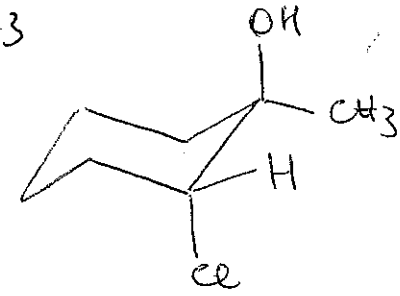
(1S,2R)-2-cloro-1,2-dimetilcicloesanolo

5) Disegnare le proiezioni di Fisher e attribuire la configurazione assoluta:



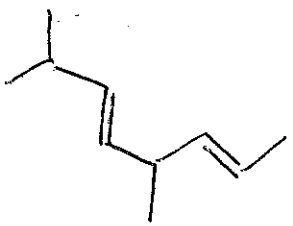



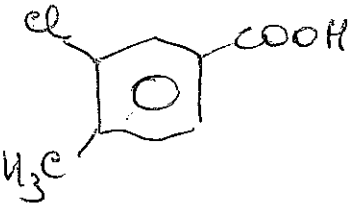



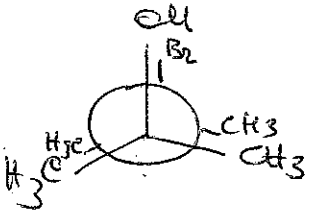
UNIVERSITA' DEGLI STUDI DI SIENA
Corso di Laurea in Scienze Chimiche

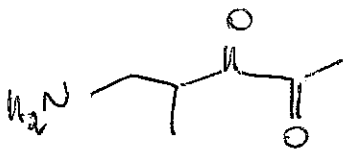
24/2/2014

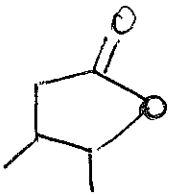
1) Attribuire il nome IUPAC e la notaz. stereochimica, se opportuno:

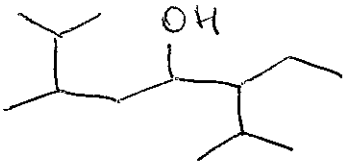




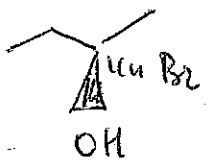



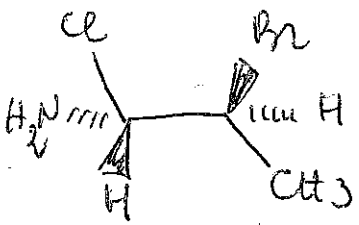



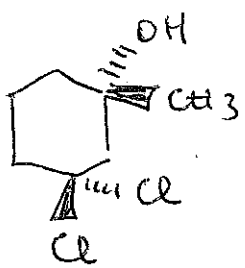



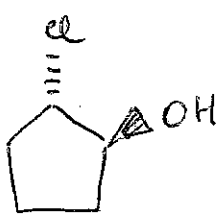

2) Descrivere l'ibridazione $sp^2$ del carbonio (orbitali, geometria) indicando almeno tre classi di composti con C $sp^2$.

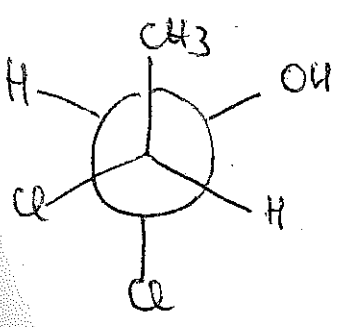
3) Disegnare le proiez. di Fischer e attribuire la config. assoluta:



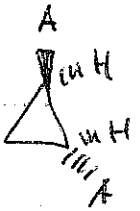



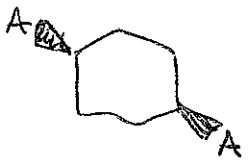



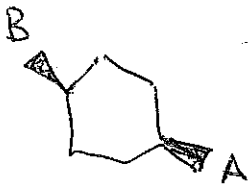



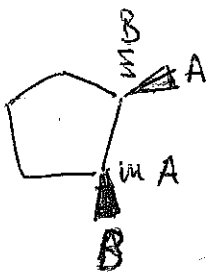
4) Per ciascun composto a) dire se è chirale / achirale
b) se può esistere come coppia di enantiomeri, ~~cosa~~ disegnare l'enantiomero

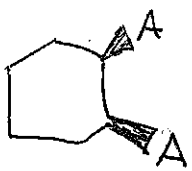
$A \neq B$



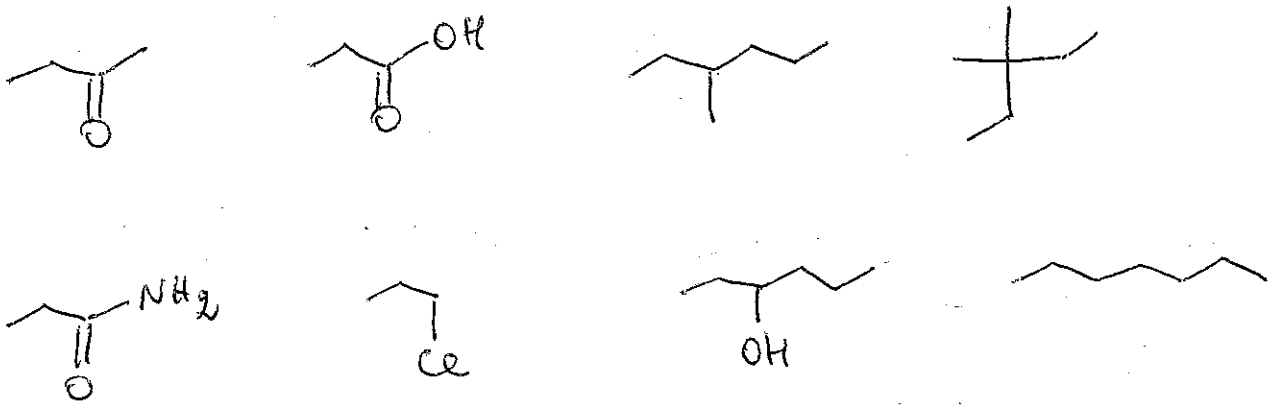



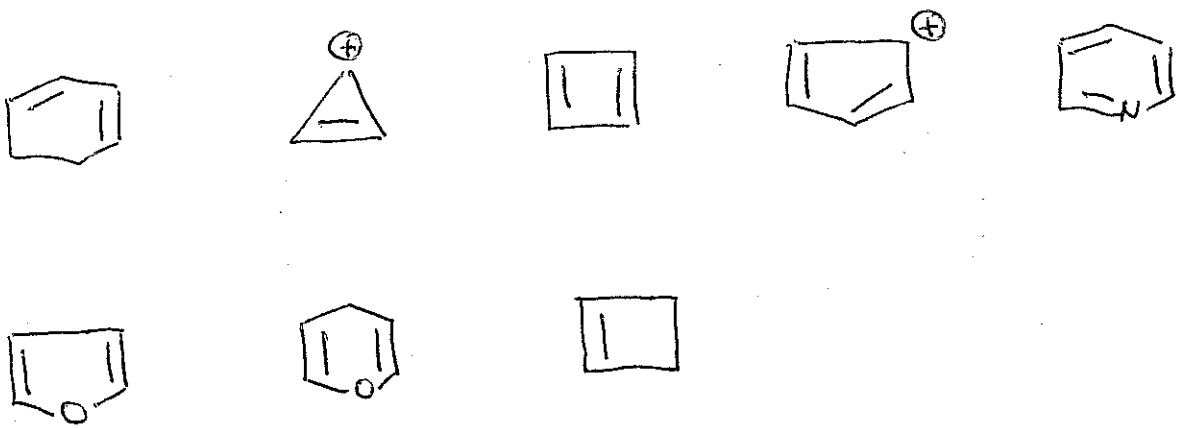



5) Disporre i seg. composti secondo pto ebollizione crescente, motivandone le scelte. (1 = pto eb. minore)




6) Individuare i comp. aromatici motivandone la scelta



UNIV. DEGLI STUDI DI SIENA

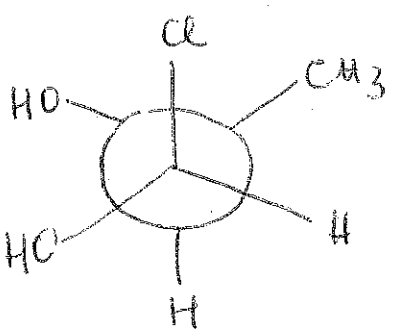
CORSO DI LAUREA IN CHIMICA

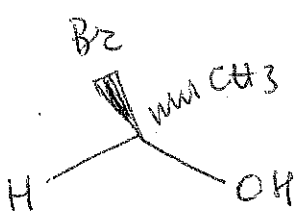
Compito CHIMICA ORGANICA 1

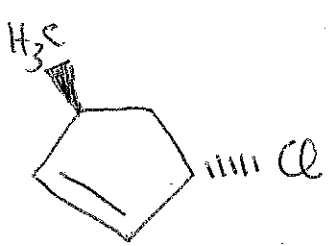
1° Modulo 21/6/2013

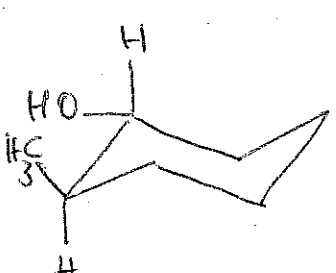
---

1) Disegnare le proiezioni di Fischer e attribuire la config. assoluta ai seg. composti:

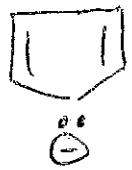
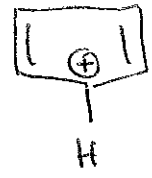


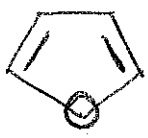



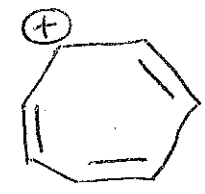



2) Individuare i composti aromatici motivandone la scelta:

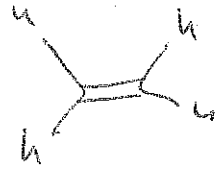




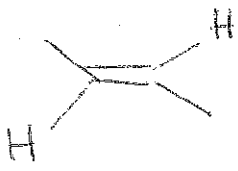
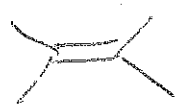




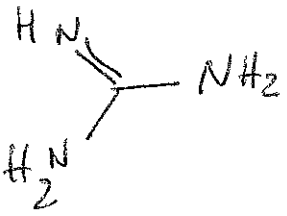


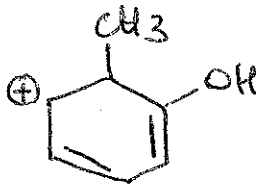
3) Disporre i seg. composti secondo la loro stabilità relativa (1 = più stabile) motivandone la scelta

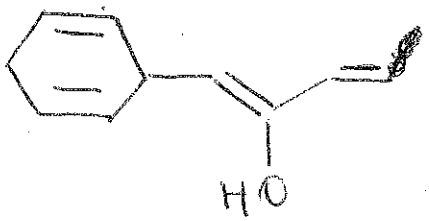



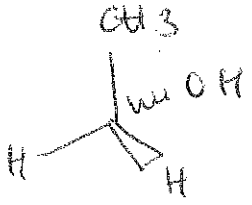
4) Rappresentare le strutture di risonanza per i seguenti composti

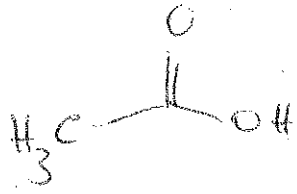


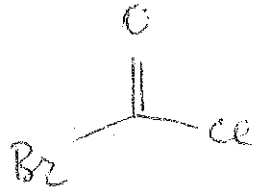



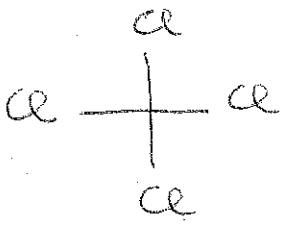



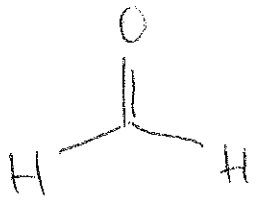

5) Determinare il n. ossidazione dei vari atomi:

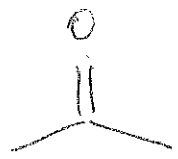


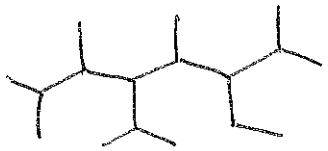



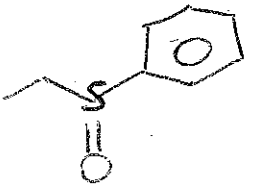



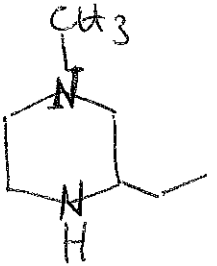



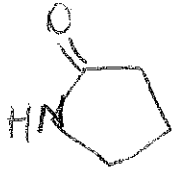



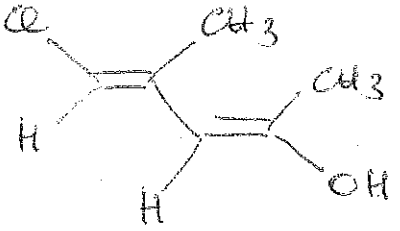
6) Scrivere il nome IUPAC e la notaz. stereochimica, se opportuna, dei seg. composti:

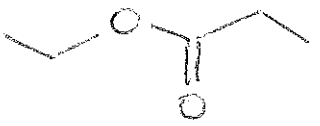




UNIVERSITA' DEGLI STUDI DI SIENA

Corso di laurea in Scienze Chimiche

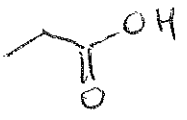
Compito di Chimica Organica - 1 modulo

17/7/2013

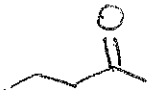
1. Utilizzando le formule opportune scrivere:

   - un'ammina terziaria chirale
   - un sale di ammonio chirale
   - un enantiomero del 2,3-diamminobutano
   - due D-chetopentosi

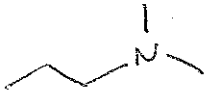
2) Ordinare i seg. composti secondo p.to ebollizione crescente (1 = p.to eb. minore) motivandone la scelta

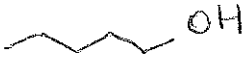


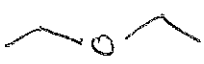






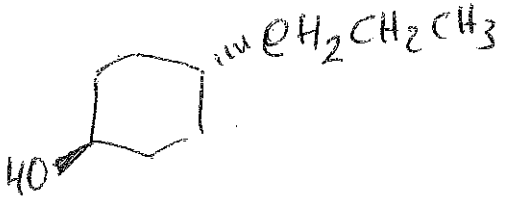


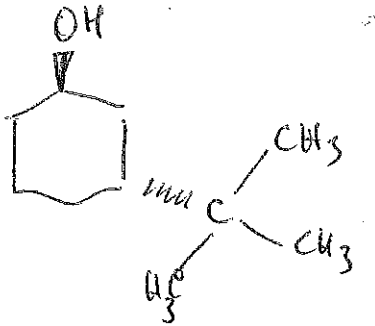



3) Per ciascun composto disegnare le conformazioni più stabili (almeno 2) e attribuire la stabilità relativa. Per i composti aciclici considerare il legame evidenziato

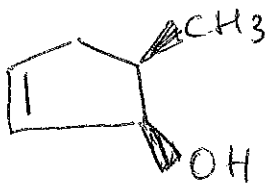
$H_3CH_2C-CH=CH-CH=CH-CH_3$

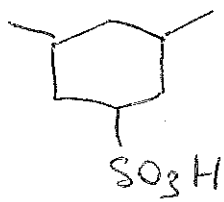


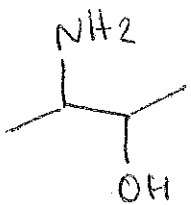



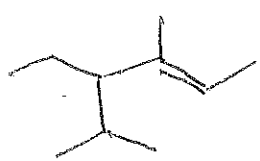

$CH_3-CH_2-CH_2CH_2OH$

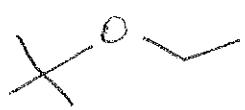
4) Scrivere il nome IUPAC e la notaz. stereoch. se opportuno:

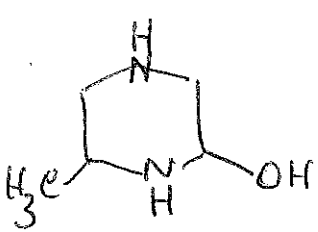



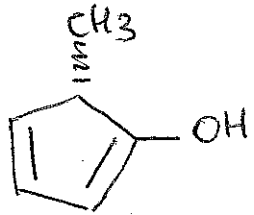



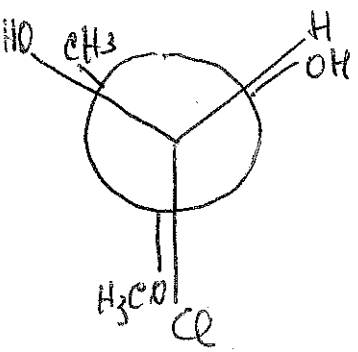



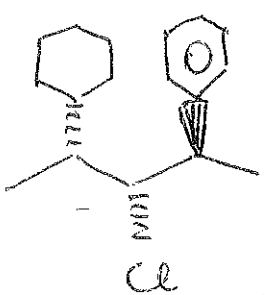


) Fare le proiez. di Fischer e attribuire la config. assoluta




;) Discutere l'equilibrio conformazionale del (1R, 3S) - 3 - metilcicloesenolo